

## CONSULTATION QUESTIONS

### **Question 1: Do the 2011-2016 strategic priorities remain robust and relevant for the period 2016-2021?**

The three strategic priorities proposed:

- Supporting policy and practice
- Supporting innovation and the economy
- Scientific resilience

appear to provide a practical approach with the further priorities, excellence/impact and collaborative and multi-disciplinary working, being vital in underpinning these.

It would be helpful to have more information about how these strategic priorities have been operationalized during the 2011-2016 period and how well they have served the overarching purpose of the SG's investment in research.

We assume 'scientific resilience' is ensuring a science base that is resilient (and that this also relates to the third of the enabling principles - maintaining national and international capability) rather than the use of research to contribute to societal resilience to risks, etc.? Also, with the intended collaborative and multidisciplinary approach should the aim be for resilience more widely applicable than the scientific area?

In Defra we are planning to maximise the impact of evidence on policy and operational objectives through our forthcoming Defra Network Evidence Strategy and there is a significant level of read-across to the SG draft strategy. In order to deliver policy/operational priorities we will be aiming to:

- Maintain access to a robust evidence base with a balanced approach across our statutory, short-term and longer-term evidence needs;
- Improve value for money through prioritisation and working with others;
- Develop a flexible and strategic commissioning process for creating headroom for future issues.

This will involve the co-design and co-funding of evidence; promotion of innovation in the use of evidence through a competitive research market and development/support of our specialists; driving up evidence quality; and recognising and protecting critical capabilities. So has much in common with the approach set out in the SG document.

From a food chain perspective (i.e. post farm gate) the strategy appears also to be very much in line with the Global Food Security (GFS) Programme's refreshed strategy, which takes a whole systems, multi-disciplinary approach to research and the strategic priorities set out in the document chime with those. The strategy also has a strong focus on enhancing collaboration across research themes, which we welcome.

**Question 2: Do these ‘enabling principles’ set the right context or should additional principles be adopted?**

The section on enabling principles refers to an ethos of collaboration within the science base and an outward facing focus on the needs of end users. This is important in ensuring collaboration across the disciplines but might more clearly include collaboration between funding organisations to maximise the impact of the resources available (this is mentioned under “Inspiring Innovation” but could usefully be highlighted elsewhere in the document). It is important to ensure a good base of capabilities and skills to deliver the outcomes listed in the strategy but also to maintain and develop partnerships and the co-ownership/design/funding of evidence more widely, where this is of benefit to Scotland.

Following on from this it would be useful to frame the ‘Exchanging Knowledge’ principle in terms of partnership working, with co-design and co-delivery involving the end-users at an early stage so that this is more than communicating knowledge to end-users but ensuring the right research questions are addressed to help achieve outcomes as well as outputs.

It is unclear how the enabling principle “Inspiring innovation” differs from the strategic priority “Supporting innovation...”. Perhaps this enabling principle needs to indicate more clearly how innovation will be underpinned and that innovation is not necessarily the end of a linear chain starting with interdisciplinary research.

The heading ‘Maintaining national and international capability’ appears to be about maintaining the international recognition of expertise within Scotland rather than access to international capability but both may need to be addressed. The Defra strategy also recognises the need to protect critical capabilities in delivering evidence needs and related emergency functions. Areas identified as high priority for the short/medium term include animal health, plant health, floods, pollinators, biodiversity monitoring, fisheries and marine environment, weather and climate risks. Longer term evidence needs identified around planning and contingency include horizon scanning, resilience, planning and early interventions.

As already indicated, value for money might also be considered an important enabling principle. Pressure on evidence budgets and the increasing costs of research mean that the use of partnerships that provide enhanced value for money become even more crucial, as do other factors such as prioritisation of research funding, the utilisation of existing knowledge and new ways of commissioning evidence. These might be better highlighted in the document.

**Question 3: Are the high level outcomes sufficiently clear, if not, what changes would you propose?**

The high level outcomes are clear but perhaps the range of terms used in the strategy – strategic priorities; further underpinning priorities; enabling priorities; research themes (high level/broad); outcomes (policy/high level) - could be better clarified by further labelling/development of Fig.1, which helpfully places the various layers in context.

Our answer to Q4 below briefly includes the approach used in the new Defra strategy based on statutory obligations, short/medium term evidence to deliver ministerial priorities and longer-term evidence needs. Under the short/medium term heading we have identified the following priority research challenges:

- Food labelling and authenticity
- Modelling international markets
- Monitoring and evaluation of the Rural Development Programme for England
- Sustainable fisheries and reform of the Common Fisheries Policy
- Terrestrial biodiversity and protected sites
- Terrestrial and freshwater monitoring
- National Pollinator Strategy and bee health
- Valuing natural capital
- Environmental quality
- Environmental stewardship to develop sustainable land management
- Flood risk and water quantity monitoring
- Scanning surveillance for new, re-emerging and zoonotic diseases
- Surveillance for exotic and notifiable diseases
- Bovine Tuberculosis.
- Research and surveillance activities to address antimicrobial resistance
- Plant Biodiversity Strategy including development of prioritised Plant Health Risk Register
- Tree Health Management Plan including management of Phytophthora, Ash Dieback, and Oak Processionary Moth
- Monitoring and surveillance for priority pests and diseases.

And in the longer-term:

- Innovate to improve economic performance in traditional and new rural and marine markets
- Exploit the impact of global developments on UK competitiveness and growth
- Develop approaches to maintain and improve public trust in the food chain
- Define the consequences of productivity growth and development on competitiveness and environmental performance across the food chain
- Target interventions to support sustainable growth in the rural economy, taking account of the impacts of societal and technological changes
- Ensuring recovery, adaptability and resilience in the face of change in marine, terrestrial and freshwater ecosystems
- Supporting sustainable growth by quantifying the value of natural capital and its role in the economy
- Optimising the trade-offs between the environmental and socio-economic impacts of demands on ecosystems and natural resources to promote sustainable growth
- Determining where Government can best intervene to improve sustainable practices – based on values, practices and motivations of people, communities and businesses; and intelligence on market dynamics
- Develop decision tools to prioritise risks and assess the cost/benefits of interventions in the face of uncertainty in complex interacting systems
- Embed improved horizon scanning and risk and opportunity assessment in policy development

- Improve the effectiveness of interventions (drawing on behavioural science), and of risk and opportunity management approaches
- Deliver better planning and response mechanisms – based on understanding public and business responses to environmental risks and controls
- Develop easier, quicker, more robust disease diagnostics and detection methods
- Enhance environmental, social and economic resilience in the marine, terrestrial and freshwater environment.

And as already indicated there appears to be much in common between these and the themes/outcomes highlighted in the SG document.

Specific comments on the SG outcomes:

- The outcome “An innovative and competitive rural economy” would reflect other parts of the document by the inclusion of “sustainable”.

- The integrated pest and disease management might be incorporated into the previous outcome as one of the building blocks of a “Productive, profitable and sustainable agriculture”. However there may be reasons for separating the IPDM area, for example, to reflect the level of importance attached to this area.

- With both the “strategic priorities” and “enabling principles” including innovation it might be appropriate to embed innovation into this section (in addition to the reference in Fig. 1) to highlight its role in achieving the policy outcomes and that these will not be the result of research alone.

A glossary would be useful to increase transparency for the non-specialist reader. Terms such as: food security; sustainable intensification; ecosystem services; natural capital; and community led innovation could be included.

**Question 4: Are the three broad themes identified an appropriate way of structuring our work? If not, what alternatives should be considered?**

There will be a number of possible ways of structuring the work but the strategic high level research themes used in the SG strategy appear to provide suitable headings for the specific policy outcomes that have been identified.

In the new Defra strategy our high level approach will be based on:

- Statutory obligations for evidence e.g. monitoring of pesticide residues in food; monitoring/assessment of air quality, though we will challenge whether they are needed and also aim to deliver them in more efficient and innovative ways.
- Short to medium term evidence needs
  - *Growing the rural economy*
  - *Improving the environment*
  - *Safeguarding animal health*
  - *Safeguarding plant health*

- Longer-term evidence needs under the headings:

- *Enhanced competitiveness and environmental performance in the environmental, food and rural sectors*
- *Natural resources managed sustainably to promote growth, public health and healthy ecosystems*
- *Greater resilience through well managed risk, and better contingency planning and mitigation of risks associated with the natural environment*

And, again, there is a significant level of read-across between these and the headings/outcomes included in the SG draft strategy.

In the SG strategy Fig. 1 helpfully highlights the overlapping nature of the broad themes and this links to the complexity of the challenges mentioned and the need to adopt a whole systems thinking approach, which may allow issues/problems falling across more than one theme to be addressed more successfully, including via a multidisciplinary approach. This has also identified in the Defra strategy which aims to improve our ability to, for example, identify and adapt to unintended negative consequences in connected areas. However, high level approaches may also cause problems where areas (e.g. forests/trees) are not specifically mentioned so there may be a lack of clarity around what is eligible for funding.

The SG document also raises/indicates:

- the issue of trade-offs. How these will be handled and the role of research in this could be developed further along with the need to manage risks, including risks as opportunities and new approaches to a resilient economy, society and environment.

- that structuring of the strategy supports and encourages collaboration across the scientific community and maximises inter-disciplinary working. This is an important aim and it would be helpful to include more information on how the strategy will support such an approach. We would also suggest that the ambition for appropriate collaboration between funders and end-users is also highlighted here.

- that a number of examples from the current portfolio can be identified to illustrate how funders and the scientific community have come together to address complex situations. The examples provided highlight major challenges such as food security and sustainable intensification; concepts such as ecosystems services; delivering policy through behaviour change, etc. but could include more information to illustrate where/how resources were mobilised as part of the previous strategy.

**Question 5: How can the SG maximise the benefits of on-going investment in the MRPs to build and benefit from connectivity with the wider science base?**

Connectivity with the wider science base might be increased by:

- Increasing the proportion of funding requiring bids from consortia of MRPs and HEIs
- Including the level of collaboration with HEIs in the assessment of impact
- Setting collaboration key performance indicators for the MRPs.

The strategy highlights the importance of the collective knowledge and experience of the staff in the MRPs. Benefits for both the MRPs and HEIs might arise through short-term staff exchange/fellowships between the different organisations, opening up access to research infrastructure, as well as clustering activities to bring together researchers working in similar areas to produce, for example, research reviews in forms suitable for the potential different end-users.

**Question 6: What are your views of the performance and operation of the CoEs to date, are there any additional areas that would benefit from such support?**

Not able to comment on the performance and operation of the CoEs but we would be very interested in knowing more about their operation and any outputs from formal evaluations especially with respect to value for money.

It is difficult to comment on additional areas that might benefit from such an approach as both the availability of expertise for formation of a CoE and the appropriateness of such an approach for a particular area of evidence would need to be taken into account. A consideration of the benefits of existing initiatives and the likely costs/benefits of any new initiatives would also need to be considered. Obviously new initiatives would need to reflect the proposed high level themes and policy outcomes such as ecosystem services and natural capital; pest and disease management; and a broad area such as land use might stimulate inter-disciplinary working as it did in the Rural Economy and Land Use (RELU) programme.

**Question 7: Do you agree with the SG's proposal to end support for SPs and to explore alternative mechanisms to strengthen engagement between its investment in research and the business sectors it aims to support?**

Not able to comment specifically on the proposal to end support for SPs. If there are other mechanisms that will better align research outputs to business needs it would be sensible to explore and develop these. We note that under the Contract Research Fund that SG enters into partnership with others, including the Technology Strategy Board (TSB) and such partnerships may potentially provide value for money in this area. It will be important to continue to drive growth through technological industry led innovation and important that the food sector, for example, has appropriate access to this innovation.

Other partnerships may also provide opportunities to increase links to

business. For example, the LWEC UK Ecosystems Task Force is starting to explore how to use natural capital and ecosystem services to engage new business partners.

**Question 8: Do you have any proposals for how the research portfolio can better link to the business community to deliver the desired outcome?**

We can learn from existing mechanisms such as the TSB Sustainable Agriculture and Food Innovation Partnership and the co-funding of activities under the UK Strategy for Agricultural Technologies. As for building the linkages between the MRPs and the wider science landscape, a requirement for proposals to be submitted by multi-partner consortia might also be applicable and bring benefits. More generally, having co-design as a fundamental part of the research and innovation process will help ensure that outputs have taken on board the needs of end-users, including business, at a sufficiently early stage of the commissioning process.

**Question 9: Is the purpose and value of underpinning capacity sufficiently clear, if not how can it be improved?**

Defining National Capability requirements and how they are most efficiently delivered is a critical task. As part of our Evidence Strategy we will be addressing the need to protect critical capabilities by mapping them to unique policy and operational responsibilities and strategic risks and prioritising these in the commissioning process. This is an area that funding organisations would benefit by forming and/or maintaining close links.

In terms of retaining capacity, the SG strategy is proposing increasing links between research providers (institutes) and higher education institutes and to continue to use its new Centres of Excellence on Climate Change, Water and Animal Disease. It would be helpful to clarify how well capacity in applied science on agriculture and food and its uptake into practice is supported as this is not covered explicitly in the document.

**Question 10: Do you have any views regarding the performance and use of the Contract Research Fund including how it could be improved?**

No comments on the performance of the CRF. However, it appears to play an important role both in accessing additional expertise and the development of partnership with other funders. We are particularly interested in the latter because a partnership approach will become even more important as pressures on evidence and other budgets increase. Working with partners on common agendas will be an integral part of the Defra Evidence Strategy. A fund such as CRF which has a focus on partnerships has the potential to play an important enabling role in a

partnership approach.

**Question 11: Could the overall delivery model be further simplified in a way which still enables SG to meet its strategic priorities for the portfolio, if so how?**

No comments.

**Question 12: Do you have specific suggestions as to how the RESAS research strategy can contribute to the delivery of the objectives of the CAMERAS partnership?**

No comments.

**Question 13: Do you have any suggestions for developing the partnership with other research funders?**

We fully support the strategy's approach to make greater use of partnership opportunities. Defra's new Strategy will place increased emphasis on working closely with partners such as the research councils, other countries and OGDs, industry and our European and international counterparts to build the strategic partnerships we need to deliver the evidence we need.

It might be worth the SG strategy including references to potential partnership mechanisms such as LWEC and GFS, the additional funding potentially available in EU programmes such as Horizon 2020 (and Structural Funds) and other European national programme coordination mechanisms such as ERA-Nets and the Joint Programming Initiatives.

The Defra network is keen to work with SG in determining evidence needs and how to work collaboratively in meeting them. Joint working on evidence planning and commissioning should bring significant benefits to as we face increasing pressures on evidence budgets.

**Question 14: Do you have any particular suggestions as to how greater engagement with the HEI sector might be achieved?**

No comments.

**Question 15: Are the research outputs from the RESAS portfolio of research readily accessible or can this be further improved, if so how?**

Not able to comment on the accessibility of research outputs but suggest this is only part of the issue. A key question would be whether anyone is making full use of the portfolio of data and its outputs. Impact of research is facilitated by co-design and bringing end users in at the start of the research as well as by making it accessible at the end.

**Question 16: Is the current performance management approach fit for purpose or can it be improved, if so how?**